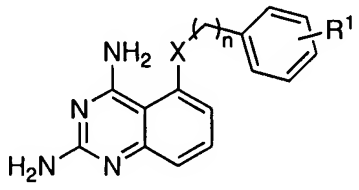
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (original): A method of treating conditions that benefit from an inhibition of dihydrofolate reductase (DHFR), comprising administering to an animal in need thereof, an effective amount of compound selected from one or more of a compound of Formula I, and pharmaceutically acceptable salts and solvates thereof:



I

wherein

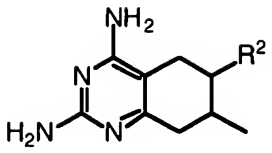
R^1 is selected from the group consisting of C_{1-4}alkyl, halo and CF_3;

X is O or S; and

n is 0 or 1.

2 (original): The method according to claim 1, wherein the compound of Formula I is selected from one or more of compound 1, 2, 3, 4 and 5 as shown in Table 1, and pharmaceutically acceptable salts and solvates thereof.

3 (original): A method of treating conditions that benefit from an inhibition of dihydrofolate reductase (DHFR), comprising administering to an animal in need thereof, an effective amount of compound selected from one or more of a compound of Formula II, and pharmaceutically acceptable salts and solvates thereof:



II

wherein R^2 is selected from the group consisting of H and C_{1-4}alkyl.

4 (original): The method according to claim 13, wherein the compound of Formula II is selected from the group consisting of compound 6 and 7 as shown in Table 1, or pharmaceutically acceptable salts, solvates or hydrates thereof.

5 (original): A method of treating conditions that benefit from an inhibition of DHFR, comprising administering to an animal in need thereof, an effective amount a compound selected from one or more of compounds 8 to 11 as shown in Table 1 and pharmaceutically acceptable salts and solvates thereof.

6 (currently amended): A method of treating bacterial infections comprising administering an effective amount of a compound selected from one or more of

~~(a)~~ a compound of Formula I, as defined in claim 1 ~~or 2~~; and

~~(b) a compound of Formula II, as defined in claim 3 or 4;~~

~~(c) compounds 8-11 as shown in Table 1; and~~

~~(d)~~ pharmaceutically acceptable salts and solvates ~~of (a), (b) and (c)~~thereof,

to a cell or animal in need thereof.

7. – 14. (cancelled)

15 (original): The method according to claim 6, wherein the bacterial infection is selected from an *E. coli, Bacillus Subtilis, Streptococci, Staphylococci, Enterococci, Salmonella, Haemophilus influenza, Pseudomonas aeruginosa, Bacillus anthracis* and *Helicobacter pylori* infection.

16 (original): The use according to any one of claims 13-14, wherein the bacterial infection is selected from an *E. coli, Bacillus Subtilis, Streptococci, Staphylococci, Enterococci, Salmonella, Haemophilus influenza, Pseudomonas aeruginosa, Bacillus anthracis* and *Helicobacter pylori* infection.

17 (original): The method according to claim 5, wherein the compound is compound 9 as shown in Table 1 and pharmaceutically acceptable salts and solvates thereof.

18 (original): The method according to claim 7, wherein the compound is compound 9 as shown in Table 1 and pharmaceutically acceptable salts and solvates thereof.

19. (cancelled)

20 (original): A method of inhibiting DHFR *in vitro* comprising administering an effective amount of a compound selected from one or more of:

(a) a compound of Formula I, as defined hereinabove;

(b) a compound of Formula II, as defined herein above;

(c) a compound selected from compounds 8-11 as shown in Table 1; and

(d) salts and solvates of (a), (b) and (c),

to a cell or assay mixture.

21. (cancelled)

22 (original): The method according to claim 20, wherein the DHFR is bacterial DHFR.

23 (original): The method according to claim 22, wherein the bacteria are *E. coli, Bacillus Subtilis, Streptococci, Staphylococci, Enterococci, Salmonella, Haemophilus influenza, Pseudomonas aeruginosa, Bacillus anthracis* and *Helicobacter pylori.*

24 (original): The method according to claim 23, wherein the bacteria are *E. coli.*

25. – 27. (cancelled)

28 (currently amended): The method according to ~~any one of~~ claims 20 ~~and 23-24~~ wherein the compound is compound 9 as shown in table 1 and pharmaceutically acceptable salts and solvates thereof.

29. (cancelled)

30 (original): A method for identifying a candidate therapeutic agent and a cellular target molecule that is modulated by the agent comprising:

(a) contacting a plurality of test agents with a first target cell;

(b) selecting test agents from step (a) that inhibit the growth of the first target cell, wherein said selected test agents are candidate therapeutic agents;

(c) contacting a candidate therapeutic agent identified in step (b) with (i) the first target cell and separately with (ii) a second target cell that overexpresses one or more genes;

(d) comparing the growth of the first target cell with the second target cell wherein the inhibition of growth of the first target cell and not the second target cell indicates that the second target cell overexpresses the cellular target molecule of the candidate therapeutic; and, optionally

(e) isolating the cellular target molecule.

31 (original): A method for identifying a candidate therapeutic agent and a cellular target molecule that is modulated by the agent comprising:

(a) contacting a candidate therapeutic agent with (i) a first target cell and separately with (ii) a second target cell that overexpresses one or more genes;

(b) comparing the growth of the first target cell with the second target cell wherein the inhibition of growth of the first target cell and not the second target cell indicates that the second target cell overexpresses the cellular target molecule of the candidate therapeutic; and, optionally

(c) isolating the cellular target molecule.

32 (currently amended): The method according to ~~any one of~~ claims 30-~~31~~ wherein the first and second target cells are selected from bacterial, fungus, parasites and cancer cells.

33 (original): The method according to claim 32 wherein the bacterial cells are selected from the group consisting of *E. coli*, *Bacillus subtilis*, *Streptococci*, *Staphylococci*, *Enterococci, Salmonella, Haemophilus influenza, Pseudomonas aeruginosa*, *Bacillus anthracis* and *Helicobacter pylori*.

34 (currently amended): The method according to ~~any one of~~ claims 30-~~33~~ wherein the second target cell has been transformed with a multicopy random genomic library that overexpresses all of the genes present in the first target.

35 (currently amended): The method according to ~~any one of~~ claims 30-~~34~~, wherein the second target cell does not express genes encoding efflux pumps.

36 (currently amended): A pharmaceutical composition comprising a therapeutic agent identified using the screening method according to ~~any one of~~ claims 30-~~35~~ in admixture with a suitable diluent or carrier.

37 (currently amended): A method of preparing a pharmaceutical composition for use in therapy comprising mixing a therapeutic agent identified according to the screening assay according to ~~any one of~~ claims 30-~~35~~ with a suitable diluent or carrier.

38 (currently amended): A composition according to claim 36 ~~or prepared using the method according to claim 37~~ wherein said therapeutic agent is for treating a bacterial infection, fungal infection, a parasitic infection or cancer.

39 (original): A kit for use in identifying a therapeutic agent and its cellular target comprising a first target cell to which one wishes to generate a therapeutic agent and a second target cell that overexpresses one or more genes present in the first target cell.

40 (currently amended): A method of treating a disease comprising administering an effective amount of a therapeutic agent isolated according to the method of ~~any one of~~ claim~~s~~ 30 ~~to 35~~ an animal in need thereof.

41 (currently amended): A method of conducting a drug discovery business comprising:

(a) providing one or more assay systems for identifying a potential therapeutic agent based on the method according to ~~any one of~~ claim~~s~~ 30-~~35~~;

(b) conducting therapeutic profiling of agents identified in step (a), or further analogs thereof, for efficacy and toxicity in animals; and

(c) formulating a pharmaceutical preparation including one or more agents identified in step (b) as having an acceptable therapeutic profile.

42 (currently amended): A method of conducting a target discovery business comprising:

(a) providing one or more assay systems for identifying a potential therapeutic agent based on the method according to ~~any one of~~ claim~~s~~ 30-~~35~~;

(b) (optionally) conducting therapeutic profiling of agents identified in step (a) for efficacy and toxicity in animals; and

(c) licensing, to a third party, the rights for further drug development and/or sales for agents identified in step (a), or analogs thereof.

43 (new): A method of treating bacterial infections comprising administering an effective amount of a compound selected from one or more of a compound of formula II as defined in claim 2 and pharmaceutically acceptable salts and solvates thereof, to a cell or animal in need thereof.

44 (new): A method of treating bacterial infections comprising administering an effective amount of a compound selected from one or more of compounds 8-11 as shown in Table 1 and pharmaceutically acceptable salts and solvates thereof, to a cell or animal in need thereof.